

**Proposed Title:** Relationship between sunless tanning products, indoor tanning, and skin protection behaviors

**Authors:** Amy L. Yaroch, Jo Ellen Stryker, Karen Glanz, Audie A. Atienza

**Study rationale/description:**

In recent years, sunless tanning products have become increasingly popular. Although these products, that contain dihydroxyacetone, are considered safe to use, there are concerns that users of sunless tanning products may also be increasing their exposure to harmful ultraviolet radiation, either in the form of sun exposure or ultraviolet indoor tanning devices. While some sunless tanning products contain sunscreen, their efficacy is limited to a short time period immediately after application. The added sunscreen, in conjunction with a darkened skin color, may create a false sense of protection from ultraviolet radiation, which may cause users of sunless tanning products to be less likely to practice safe sun behaviors.

Additionally, many tanning salons now offer both sunless tanning and ultraviolet indoor tanning beds (Fu, Dusza, & Halpern, 2004) at the same locations, increasing the ease of using either or both alternatives, and the extent to which individuals utilize both services is unknown. Some interventions have included sunless tanning products as an alternative to ultraviolet exposure. While sunless tanning products were only one component of a larger intervention, these studies demonstrated that at minimum, the inclusion of sunless tanning products did not increase exposure to ultraviolet radiation. (Hillhouse & Turrissi, 2002; Mahler et al., 2005)

However, there have been no reported studies about the practices of sunless tanners who have not received an educational intervention,. In addition, currently there is no information about sunless tanning product use and indoor tanning practices collected at a national level (using a nationally representative sample). Thus, we do not know about sunless tanners' risk of exposure to ultraviolet radiation. While there are reasons to believe that sunless tanners might be at increased risk, it is also possible that individuals choose to use sunless tanning products as a safer alternative to exposure to ultraviolet radiation. Therefore we would like to try to characterize sunless tanners, in terms of other behaviors and various health communication channels used.

**Research questions:**

1. What is the prevalence of sunless tanners and indoor tanners (with a breakdown by demographic variables, such as age, gender, geographic region, race/ethnicity, etc.)
2. Who are sunless tanners?
3. Are sunless tanners more or less likely to perform safe protection behaviors than non-sunless tanners?
4. Are sunless tanners more or less likely to use indoor tanning devices than non-sunless tanners?

**Variables of interest:**

Sun Protection

SP-01. Sun protection: sunscreen, stay in shade, hat, clothing.

SP-02. Indoor tanning devices

SP-03. Sunless tanning products

Health Communications variables (HC-01 - HC-16)

**Demographics:**

DM-01 Employment status

DM-02 Marital status

DM-03 Education

DM-04 and 05 Race/Ethnicity

DM-11 How many people in household

DM-14 Income Age Gender Region

**References:**

Fu, J. M., Dusza, S. W., & Halpern, A. C. (2004). Sunless tanning. *Journal of the American Academy of Dermatology*, 50(5), 706-713.

Hillhouse, J. J., & Turrise, R. (2002). Examination of the efficacy of an appearance-focused intervention to reduce UV exposure. *Journal of Behavioral Medicine*, 25(4), 395-409.

Mahler, H. I., Kulik, J. A., Harrell, J., Correa, A., Gibbons, F. X., & Gerrard, M. (2005). Effects of UV photographs, photoaging information, and use of sunless tanning lotion on sun protection behaviors. *Archives of Dermatology*, 141(3), 373-380.